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Serial No. 09/865645
Docket No. 15847/82399

* * R E M A R K S * *

Applicant wishes to acknowledge with appreciation the Examiner's analysis and efforts in examining this application. A "marked-up" version of the amended portion of the amended claims is submitted concurrently at the end of this section pursuant to 37 C.F.R. § 1.121(c)(1)(iii).

The Official Action of January 22, 2003, has been thoroughly studied. Accordingly, the changes presented herein for the application, considered together with the following remarks, are believed to be sufficient to place the application into condition for allowance.

On page 2 of the Official Action, the Examiner has objected to the drawings under 37 C.F.R. §1.83(a) alleging that the drawings do not show every feature of the invention specified in the claims. The Examiner believes that "the breech end is positioned at a substantially perpendicular angle to the firing mechanism" in Claim 7 must be shown or the feature(s) canceled from the claim(s).

Because Claim 7 has been cancelled, it is respectfully believed that this objection to the drawings under 37 C.F.R. §1.83(a) is moot, and withdrawal of the objection is respectfully requested.

Also on page 2 of the Official Action, the Examiner has indicated that Claim 8 is objected to because in line 3, the term "breach" is misspelled.

Pursuant to the Examiner's request, appropriate correction was made to Claim 8. Withdrawal of the rejection is, too, respectfully requested.



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On page 3, the Examiner rejected Claims 1, 2, and 4-22 under 35 U.S.C. § 102(b) as being anticipated by Speer (4,345,578, hereinafter "the '578 patent"). The Examiner alleges that Speer discloses, in figures 1 and 2 "the overall construction of a preferred ball serving or pitching machine" (column 2, lines 19-21) "pneumatically operated projecting device for throwing of balls" (column 1, lines 14 and 15) which has a firing mechanism 10, a first plane (directional axis of travel), a second plane being between the breech and muzzle ends, a barrel with a breech end coupled to the firing mechanism capable of receiving a ball (paint ball), and the barrel being curved and bored to impart a spin as the ball is propelled through and pressed along the maximum curve radii (see abstract, and column 1, lines 49-52). According to the Examiner, the muzzle end is positioned above at least a portion of the firing mechanism. The top edge of the housing (shrouding a portion of the barrel) as marked in the drawing defines the longitudinal axis of the firing of the gun, thus defining a plane, which simulates a level of orientation of the gun. Refer to figure 1 for longitudinal extension or axis located parallel to the plane. The firing mechanism of the gun is positioned at a non-parallel angle (or askew) to a line of fire direction of the gun as shown in figure 2 by the angle δ . The muzzle end of the bore (barrel) is capable of being positioned generally parallel (Figure 6, showing the barrel not curved) or perpendicular ("radius of curvature from substantially infinite to straight tube," see last sentence in abstract) to the directional axis of firing (first plane).

Furthermore, with regard to the limitation of the "paint ball firing mechanism," the Examiner states that, "[t]here's no structure, no difference in the claims to distinguish the paintball apparatus from any other ball apparatus." (See page 2.) The Examiner is, thus, taking the position that the limitation of the "paint ball firing mechanism" as an affirmative claim limitation has no weight as a limitation, as if it were never in the claim.

The Examiner's argument, thus, appears to be that the '578 patent discloses all of the limitations of the claimed invention, and that the limitation "paint ball" does not further limit



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the phrase “firing mechanism.” This appears to be an inherency rejection wherein the firing mechanism of the ‘578 patent is the equivalent of the “paint ball firing mechanism” of Claim 8.

During an interview with the Examiner conducted on January 29, 2002, the issue of the “paint ball firing mechanism” was discussed. The Examiner indicated that this limitation was not structural, but rather merely functional. Specifically, the Examiner has taken the position that a “paint ball” was considered part of the “and the like” phrase when referring to the list of “tennis balls, baseballs and the like” as the types of balls the projecting device of the ‘578 patent can expel. The interview summary report cites MPEP § 2114 and § 2115, as support for this position.

It, thus, appears that the Examiner is adding a corollary to the rejection which is that the “paint ball firing mechanism” limitation is a means-plus-function limitation, and that such a means-plus-function limitation is anticipated by the ‘578 patent.

For the reasons set forth below, as well as the Affidavit of Mr. Dennis Tippmann Jr., filed herewith, as one skilled in the art, it is respectfully believed that the limitation “paint ball firing mechanism” is distinguishable from the firing mechanism or means for projecting tennis balls, baseballs and the like, as indicated in the ‘578 patent. In addition, it is respectfully believed that the “paint ball firing mechanism” limitation is not a means-plus-function limitation as the Examiner alleges. Furthermore, regardless how the “paint ball firing mechanism” limitation is interpreted, either structurally or functionally, it is respectfully believed that one skilled in the art recognizes that such a limitation, still, is not anticipated by the means for projecting tennis balls, baseballs and the like, as disclosed in the ‘578 patent.

The standard for claim interpretation is not the broadest interpretation possible but, rather, the **broadest reasonable interpretation consistent with the interpretation that those skilled in the art would reach.** (See *In re Cortright*, 165 F.3d 1353, 1359, 49 USPQ2d



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1464, 1468 (Fed. Cir. 1999), and MPEP § 2111.) In addition, it is settled patent law that the Applicant may be his or her own lexicographer so long as the meaning assigned to the term is not repugnant to the term's well-known usage. (See MPEP §2111.01.) Furthermore, it is also settled patent law that when a term is given as the name of a structure, as long as that term is recognizable to one skilled in the art, the limitation is not functional pursuant 35 U.S.C. § 112, paragraph six.

Because the Examiner has taken the position that the firing apparatus of the ball projecting device disclosed in the '578 patent is not distinguishable from the paint ball firing mechanism recited in the claims herein, it is understood that the burden of proof to provide evidence to the contrary is shifted to the Applicant. (See MPEP § 2112.) Accordingly, attached herewith is an Affidavit of Mr. Dennis Tippmann, Jr., the inventor and one skilled in the art of paint ball guns, which distinguishes the firing mechanism of the '578 patent from the claimed paint ball firing mechanism. Further support of Mr. Tippmann's assertions is shown graphically by virtue of the Digital Video Disc ("DVD") and the firing mechanism comparison chart that accompanies the Affidavit.

The Examiner's basis for the rejection is that a paint ball can be fired from the firing mechanism disclosed in the '578 patent, making the paint ball firing mechanism indistinguishable therefrom. It is clear to one skilled in the art, as asserted by Mr. Tippmann's Affidavit, that the firing mechanism of the '578 patent (as disclosed in U.S. Patent No. 4,094,294, hereinafter "the '294 patent") inherently relies on the strength of the ball to assist in its firing, and a system that relies on such compressive forces cannot fire a paint ball. The firing mechanism of the '294 patent employs compressive forces on the ball from both behind and in front of same to keep it in place until such a sufficient pressure is built up. At that point, the trigger mechanism (detent 65) collapses, causing only pressure behind the ball to remain. That pressure then propels the ball from the device. The '294 patent specifically teaches, at column 8,



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lines 6 through 8, that the pressure force against the ball is directly related to velocity at which the ball will be ejected from the device.

Any firing mechanism that is premised on high compression forces being exerted on the projectile prior to firing cannot be used on a frangible object, like a paint ball. Tennis balls, baseballs, and even ping-pong balls all share a common characteristic that is not shared by paint balls - that is structural strength and resiliency. If one were to squeeze or otherwise apply a reasonable amount of force on a tennis ball or baseball, common sense dictates that it will not rupture. This is the case even if the compression force from the squeezing is great enough to deform the ball. These types of balls are resilient enough to go back into shape almost immediately after the compression is relieved. Paint balls, on the other hand, by definition are frangible and, thus, are designed to rupture upon even the modest of forces, especially compressive and impact forces. Liquid filled bodies held together with a thin fragile skin obviously cannot withstand any substantial compressive force of the kind that is required to be fired through the mechanism of the '294 patent.

Mr. Tippmann's Affidavit clearly establishes the distinctions between the firing mechanism of the '294 patent and a conventional paint ball or marking gun firing mechanism, such as that disclosed in the parent application. Typical paint ball mechanisms handle the paint ball inside the bore very carefully so it will not break therein. In the case of the illustrative mechanism disclosed in the application and shown in the Affidavit's comparison chart, the paint ball is initially held in the bore by a stop prior to firing the gun. Once the trigger is pulled, a funnel gently pushes the ball past the stop so the ball will not be obstructed when the fluid propels the paint ball through the bore. This movement is slow enough that the obstruction of the stop will not rupture the paint ball during movement of the same. This process is also shown on the accompanying DVD.

Notes to Red and Claims



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When firing a “paint ball firing mechanism,” that mechanism ensures that the ball does not encounter anything that would cause it to rupture. This is in contrast to the ball projecting mechanism shown in the ‘294 patent. This mechanism explicitly requires that high and building pressure be exerted on the ball until the pressure overcomes the detent holding the ball in place and force it out of the barrel. Clearly one skilled in the art of paint ball guns receives no useful teachings from the ‘294 patent because such a firing mechanism would obviously rupture a paint ball before it leaves the firing mechanism. In fact, the disclosure of the ‘294 patent teaches that, the more pressure exerted on the ball, the faster it will be shot from the barrel. Certainly, one skilled in the art recognizes that no paint ball could withstand such a firing mechanism.

Accordingly, with regard to the Examiner’s first argument that the limitation of the “paint ball gun firing mechanism” does not contain enough structure or is otherwise indistinguishable from the mechanism of the ‘578 patent, one skilled in the art clearly recognizes that the “paint ball gun firing mechanism” is, in fact, distinguishable. The mechanism of the ‘578 patent does not inherently possess the properties of the “paint ball gun firing mechanism” that anticipate Claim 8. The Affidavit of Mr. Tippmann establishes that the limitation “paint ball gun firing mechanism” of Claim 8 is distinguishable from the mechanism of the ‘578 patent. (See MPEP 706.2(m) and MPEP 2112.)

Accordingly, a paint ball cannot be considered a ball that could be included as “and the like” with tennis balls and baseballs contemplated by the device of the ‘578 patent. (See column 1, lines 15-16 of the ‘578 patent.)

With regard to the Examiner’s second argument which is, essentially, that the limitation “paint ball gun firing mechanism” is merely a 35 U.S.C. § 112, paragraph six, functional limitation, it is respectfully believed that the limitation is not. Furthermore, even if it



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is, it is still not anticipated by the '578 patent. Because the Applicant has the right to be his/her own lexicographer, a structure can be given a name, and if understood by one skilled in the art, and the name not being repugnant to the term's well known usage, the structure can be named whatever the Applicant desires.

In this case, the illustrative structure 3 shown in the drawings of the present application, to one skilled in the art, as the chart in Mr. Tippmann's Affidavit demonstrates, is recognized as a "paint ball gun firing mechanism." It is not a "mechanism for firing paint balls" or a "paint ball gun firing means," rather, its definition or quintessential being is a "paint ball gun firing mechanism." By Mr. Tippmann's Affidavit, one skilled in the art understands that a "paint ball gun firing mechanism," particularly when the claimed device is a "paint ball gun," is not a tennis ball or base ball throwing machine.

The Applicant recognizes the example (A) in MPEP § 2181 and believes that it is not analogous to "firing mechanism" because it is believed to be sufficiently definite to one skilled in the art. This is in contrast to "jet driving" from example (A) which included a device to make the limitation more definite. If the Examiner believed the firing mechanism was not definite, obviously she would have issued 35 U.S.C. § 112, first paragraph rejections to all of the claims that included only references to "a firing mechanism," rather than "paint ball firing mechanism." She did not.

Specifically, regarding the "paint ball firing mechanism," the Examiner is reminded that:

the fact that a particular mechanism . . . is defined in functional terms is not sufficient to convert a claim element containing that term into a "means for performing a specified function" within the meaning of section 112(6). Many devices take their names from the functions they perform. The examples are innumerable, such as



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"filter," "brake," "clamp," "screwdriver," or "lock." Indeed, several of the devices at issue in this case have names that describe their functions, such as "graspers," "cutters," and "suture applicators.

Greenberg v. Ethicon Endo-Surgery Inc., 39 USPQ2d 1783, 1786 (Fed. Cir. 1996).

That is the case here. The term "paint ball" is a noun, which one of ordinary skill in the art readily understands even though one could argue it is defined by a function term. *Id.* It is long settled law that it is not paramount what individual terms like "paint ball" or "firing mechanism" mean or do. *Id.* Rather, what is controlling is that the term, as the name for the structure, has a reasonably well understood meaning in the art. *Id.* One skilled in the art of paint ball guns would clearly understand the meaning of a "paint ball gun comprising . . . a paint ball firing mechanism" as well as recognize that the invention is not the tennis ball thrower disclosed in the '578 patent.

Accordingly, because the limitation "paint ball gun firing mechanism" by its definition is a structural limitation and not one found in the '578 patent, withdrawal of the rejection under 35 U.S.C. § 102 is respectfully requested. Furthermore, even if the Examiner still believes that the "paint ball gun firing mechanism" is indeed a functional limitation, Mr. Tippmann's Affidavit, distinguishing between such and the firing mechanism of the '578 patent, demonstrates one skilled in the art recognizes such distinctions. Again, therefore, withdrawal of the rejection under 35 U.S.C. § 102 is respectfully requested.

On page 4 of the Official Action, the Examiner indicates that Claim 3 is rejected under 35 U.S.C. § 103(a) as being obvious under Speer (4,345,478[sic]) in view of Fischer. Speer is discussed above. The Examiner acknowledges that Speer does not disclose the barrel having a portion of the bore not curved. Fischer shows a portion of the barrel (bore) not curved. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide a non-curved barrel portion of Fischer with the curved portion of Speer as stated



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by Fischer in column 1, lines 16 and 17, "so that a cone of fire may be directed in any desired direction or angle of elevation and shelter the operators from hostile fire."

It is respectfully believed that this rejection is moot in light of the foregoing arguments. Nevertheless, with regard to the Fischer patent, it is respectfully not understood what the basis of motivation is to combine "shelter the operators from hostile fire" with a tennis ball and baseball thrower. In other words, there is no teaching in the '579 patent to motivate one skilled in the art to combine a tennis ball projecting device with a device that protects the operator from hostile fire. It is probably safe to assume that operators of tennis ball projecting devices rarely encounter hostile fire.

It is believed that the above represents a complete response to the Official Action and favorable reconsideration by the Examiner is requested. The proposed amendments do not raise new issues that would require further consideration and/or search, do not raise the issue of new matter, do not increase the number of claims in the application, and are deemed to place the application in better form for either allowance or appeal by reducing or simplifying the issues for appeal.

(C) claiming interpretation

If, upon consideration of the above, the Examiner should feel that there remain outstanding issues in the present application that could be resolved, the Examiner is invited to contact Applicant's patent counsel at the telephone number given below to discuss such issues.



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To the extent necessary, a petition for an extension of time under 37 C.F.R. §1.136 is hereby made. To the extent additional fees are required, please charge the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 02-1010 (15847/82399) and please credit any excess fees to such deposit account.

Respectfully submitted,



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MARKED-UP VERSION OF REWRITTEN CLAIMS
IN AMENDMENT TO U.S. PATENT APPLICATION NO. 09/865645
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Please amend Claim 8 as follows:

8. (Amended) A paint ball gun comprising:
a paint ball firing mechanism; and
a barrel having a **[breach] breech** end, a muzzle end and a bore extending
therebetween;

wherein the breech end is in communication with the paint ball firing
mechanism and is configured to receive the paint ball into the passage; and

wherein the bore has an inner wall that forms an arcuate path along which
the paint ball travels, and which the paint ball contacts a portion thereof when propelled
therethrough to impart a spin on the paint ball.